



GAU 1742

2771-221 DIV
Patent Application

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re United States Patent Application of:

Applicants: Bhandari, Gautam, et al.

Application No.: 09/483,859

Date Filed: January 17, 2000

Title: TANTALUM AMIDE
PRECURSORS FOR
DEPOSITION OF TANTALUM
NITRIDE ON A SUBSTRATE

Examiner: Not yet assigned

Group Art Unit: 1742

Paper No.: 2

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FIRST CLASS MAILING CERTIFICATE

I hereby certify that I am filing the attached documents by First Class Mail, by deposit with the United States Postal Service, postage prepaid, addressed to the Assistant Commissioner for Patents, Washington, DC 20231, on the date specified below, under the provisions of 37 CFR 1.8.

Lee Ann Brown

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April 13, 2000

Date of Mailing

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PRELIMINARY AMENDMENT IN
U.S. PATENT APPLICATION NO. 09/483,859Assistant Commissioner for Patents
Washington, DC 20231

Sir:

Preliminary to examination of the above-identified patent application, please enter the following new claims 16-20:

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16.

A method according to claim 1, wherein the precursor comprises pentakis(N-methyl, N-ethyl amido)tantalum.

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A method of depositing a tantalum-containing film on a substrate, comprising vaporizing a precursor composition comprising pentakis(N-methyl, N-ethylamido)tantalum to form a precursor vapor, and contacting said vapor with the substrate to deposit said tantalum-containing film on the substrate.

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18. A method according to claim 17, wherein the vaporizing and contacting steps comprise liquid delivery chemical vapor deposition.

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19. A method of fabricating a microelectronic device structure, comprising vaporizing a precursor composition comprising pentakis(N-methyl, N-ethylamido)tantalum to form a precursor vapor, and contacting said vapor with a substrate to deposit a tantalum-containing film on the substrate, and thereafter metallizing the substrate with copper or integrating it with a ferroelectric thin film.


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20. A method of claim 19, wherein the tantalum-containing film comprises tantalum nitride.

REMARKS

New claims 16-20 have been added herein to claim a preferred aspect of the applicants' invention. No additional fee or charge is due, since the added claims do not increase the number of independent claims beyond three in number or the total number of claims beyond twenty in number. Nonetheless, if any additional fee or charge is determined to be payable, authorization hereby is given to charge such amount to Deposit Account No. 08-3284 of Intellectual Property/Technology Law.

It therefore is requested that the examination of this application proceed on the basis of claims 5-20 now pending in the application.

Respectfully submitted,


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